KANSAS

Agricultural Chemical Usage

1996 Corn Pesticide Summary

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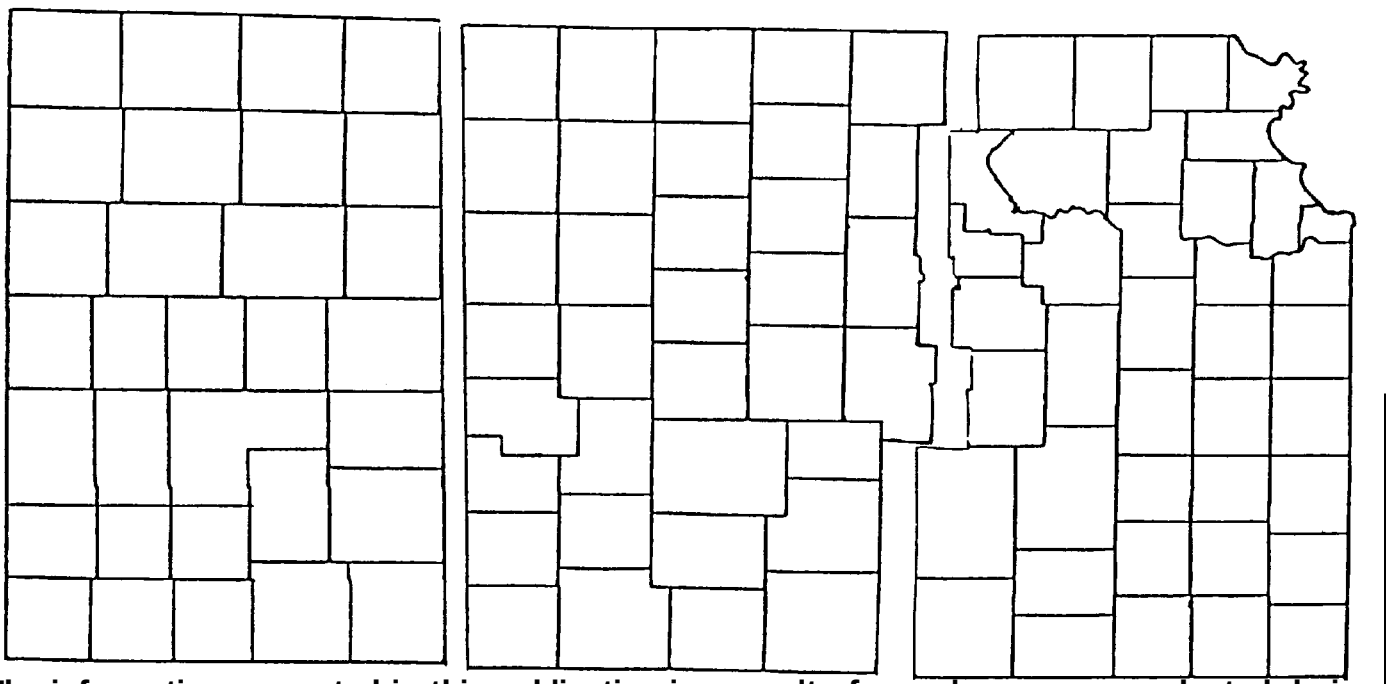
TABLE OF CONTENTS

OVERVIEW

The data presented in this publication were funded through the Cooperative Extension Service, Kansas State University, and USDA's National Pesticide Impact Assessment Program.

This initiative is designed to provide farmers and ranchers the knowledge and technical means to respond independently and voluntarily to on- and off-farm environmental concerns. In the past, farm level data have been inadequate to determine the magnitude of water quality problems or the benefits and costs of alternative solutions for the farmer and other affected parties. These data will help fill some of the data needs that analysts require to find solutions to the complex environmental issues of the 1990's.

On-farm fertilizer and chemical use data for 1996 Kansas corn are included in this publication. For purposes of this survey, the State of Kansas was divided into three regions which can be described as Western, Central, and Eastern Kansas. The map below outlines the boundaries that were used.



The information presented in this publication is a result of sample surveys conducted during the 1996 crop year. Chemical use data were collected for corn in October 1996. A total of 325 sample fields were selected for the 1996 corn survey with 217 useable reports. No data are published in this report unless at least 10 reports were received for that particular fertilizer or pesticide application.

HIGHLIGHTS

Corn production in Kansas has grown significantly since 1990 when a similar survey was conducted. In 1990, 1.6 million acres were planted to corn, compared to 2.5 million acres in 1996, a 56 percent increase. The largest increase occurred in the western region of the State which had a 73 percent increase. The central region increased 49 percent and the eastern region 35 percent.

In 1996, nitrogen was applied to 98 percent of the corn acres in Kansas, with an average application rate for the season of 170 pounds/acre. This is up 53 pounds/acre from the results found in the 1990 survey. The most common method of application was injecting into the soil or broadcasting. Eighty-two percent of the acres had nitrogen applied three or more days before planting, 39 percent at seeding, and 27 percent after seeding.

Phosphate was applied to 83 percent of the corn acres in Kansas, with an average application rate of 38 pounds/acre. This is down 3 pounds/acre from the results found in 1990. The most common method of applying phosphate was by banding.

Twenty-nine percent of corn acres in Kansas received an application of potash, with an average application rate of 36 pounds per acre. This is up 2 pounds per acre from the results found in 1990. Potash was applied either by banding or broadcasting.

Ninety-three percent of the State's corn acres had some type of herbicide applied, totaling 5.9 million pounds. Insecticides were applied to 48 percent of the acres with a total of 567,000 pounds applied. The most frequently used herbicide was atrazine, with 79 percent of the corn acres receiving an application. The average application rate for the season was 1.16 pound per acre for a total of 2.3 million pounds. Bifenthrin was the most frequent insecticide used, with 22 percent of the acres treated. The average application rate was .06 pound per acre, with a total of 32,400 pounds applied.

Sixty-four percent of the herbicide was applied by broadcasting without incorporation. Fifty-seven percent of the insecticide was applied by air. Nearly half of the herbicide was applied by the operator, but the majority of the insecticide was applied by custom applicators.

FIELD CHARACTERISTICS

CORN: SEEDING RATE BY REGION, 1996			
REGION	AVERAGE	MINIMUM	MAXIMUM
	- - - - - - - - - - - - - KERNELS PER ACRE - - - - - - - - - - - - -		
REGION 1	25,200	12,000	36,000
REGION 2	24,600	15,000	40,000
REGION 3	21,000	7,400	28,500
STATE	23,200	7,400	40,000

CORN: USE OF PESTICIDE RESISTANT VARIETIES BY REGION, 1996			
REGION	HERBICIDE RESISTANT	BT INSECT RESISTANT	GRAY LEAF SPOT RESISTANT
	- - - - - - - - - - - - - PERCENT - - - - - - - - - - - - -		
REGION 1	1/	1/	1/
REGION 2	1/	1/	1/
REGION 3	1/	1/	1/
STATE	3	1/	1/

1/ Insufficient data to publish.

CORN: NO TILL BY REGION, 1996				
REGION	ACRES WITH NO TILL	AVERAGE	MINIMUM	MAXIMUM
	PERCENT	- - - - - - - CONSECUTIVE YEARS OF NO TILL - - - - - - -		
REGION 1	28	1.1	1	2
REGION 2	11	1.0	1	1
REGION 3	12	3.5	1	6
STATE	17	1.9	1	6

FIELD CHARACTERISTICS

CORN: SOIL CONSERVATION STRUCTURES OR PRACTICES, BY REGION, 1996						
REGION	GRASS WATERWAY	TERRACES	CONTOUR FARMING	STRIP CROPPING	UNDER GROUND TILE	OTHER
	- PERCENT -					
REGION 1	2	23	18	6		3
REGION 2	21	13	11	6	2	4
REGION 3	40	45	21		13	15
STATE	24	31	18	3	6	9

CORN: SPECIAL CLASSIFICATIONS, BY REGION, 1996			
REGION	CLASSIFIED HIGHLY ERODIBLE FIELD BY NRCS	CLASSIFIED WET LAND FIELD BY NRCS	FIELD COVERED BY CROP INSURANCE
	- PERCENT -		
REGION 1	20	2	91
REGION 2	25	2	83
REGION 3	19	1	73
STATE	21	1	81

FERTILIZER USAGE BY TYPE OF FERTILIZER

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF FERTILIZER	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (Mill. Lbs) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
NITROGEN		96	1.5	107	161	200.8
PHOSPHATE		85	1.0	34	34	37.2
POTASH		15	1.0	10	10	1.9
REGION 2	590.0					
NITROGEN		99	3.9	57	221	128.8
PHOSPHATE		95	1.4	28	38	21.0
POTASH		58	2.0	27	54	18.3
REGION 3	613.0					
NITROGEN		98	1.6	90	145	86.9
PHOSPHATE		81	1.0	44	43	21.3
POTASH		32	1.0	30	30	5.9
STATE	2,500.0					
NITROGEN		98	2.1	82	170	416.5
PHOSPHATE		83	1.1	34	38	79.5
POTASH		29	1.4	25	36	26.1

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient. 2/ May not add due to rounding.

NITROGEN USAGE BY APPLICATION METHOD

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1995

APPLICATION METHOD	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
BRDCST W/O INCORP		23	1.0	69	69	20.9
BRDCST W/ INCORP		3/				
BROADCAST AIR						
IN FURROW		3/				
IN IRRIGATION		3/				
INJECT/KNIFED		64	1.1	145	165	136.0
BANDED		29	1.0	17	17	6.3
FOLIAR/DIRECT						
REGION 2	590.0					
BRDCST W/O INCORP		60	1.0	25	25	8.9
BRDCST W/ INCORP		3/				
BROADCAST AIR						
IN FURROW		19	1.5	13	19	2.1
IN IRRIGATION		3/				
INJECT/KNIFED		80	1.4	105	147	69.2
BANDED		61	1.3	29	37	13.2
FOLIAR/DIRECT		3/				
REGION 3	613.0					
BRDCST W/O INCORP		54	1.0	89	89	29.4
BRDCST W/ INCORP		6	1.0	30	30	1.1
BROADCAST AIR						
IN FURROW		7	1.1	13	14	0.6
IN IRRIGATION						
INJECT/KNIFED		68	1.0	128	130	54.4
BANDED		28	1.0	9	9	1.5
FOLIAR/DIRECT		3/				
STATE	2,500.0					
BRDCST W/O INCORP		40	1.0	68	68	59.2
BRDCST W/ INCORP		11	1.4	108	146	39.5
BROADCAST AIR						
IN FURROW		7	1.3	13	17	2.9
IN IRRIGATION		3/				
INJECT/KNIFED		69	1.2	130	151	259.6
BANDED		36	1.2	19	23	21.0
FOLIAR/DIRECT		3/				

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.

2/ May not add due to rounding.

3/ Insufficient data to publish.

NITROGEN USAGE BY TIMING OF APPLICATION

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TIMING OF APPLICATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
BEFORE SEEDING		82	1.0	149	154	164.1
AT SEEDING		39	1.0	28	29	14.4
AFTER SEEDING		26	1.0	66	66	22.2
REGION 2	590.0					
BEFORE SEEDING, FALL		79	1.0	51	53	24.9
AT SEEDING		83	1.4	21	30	14.4
AFTER SEEDING		75	2.6	77	202	89.5
REGION 3	613.0					
BEFORE SEEDING, FALL		76	1.3	113	151	70.3
AT SEEDING		48	1.2	38	45	13.0
AFTER SEEDING		6	1.1	96	101	3.6
STATE	2,500.0					
BEFORE SEEDING, FALL		80	1.1	119	130	259.2
AT SEEDING		51	1.1	29	33	41.8
AFTER SEEDING		33	1.8	75	139	115.4

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

NITROGEN USAGE BY STANDARD SOIL TEST

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

SOIL TEST	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH SOIL TEST		81	1.6	102	167	174.5
NO SOIL TEST		15	1.2	109	132	26.3
REGION 2	590.0					
WITH SOIL TEST		83	4.5	54	242	118.0
NO SOIL TEST		16	1.6	72	114	10.9
REGION 3	613.0					
WITH SOIL TEST		17	1.7	90	152	15.5
NO SOIL TEST		82	1.7	86	141	71.4
STATE	2,500.0					
WITH SOIL TEST		66	2.4	79	187	308.0
NO SOIL TEST		32	1.5	88	135	108.5

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

NITROGEN USAGE BY PROFILE NITROGEN TEST

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

SOIL TEST	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH SOIL TEST		80	1.6	102	167	174.2
NO SOIL TEST		16	1.2	110	132	26.6
REGION 2	590.0					
WITH SOIL TEST		81	4.4	55	243	116.0
NO SOIL TEST		18	1.9	63	121	12.9
REGION 3	613.0					
WITH SOIL TEST		12	1.6	99	156	11.6
NO SOIL TEST		87	1.7	85	141	75.3
STATE	2,500.0					
WITH SOIL TEST		64	2.4	79	188	301.7
NO SOIL TEST		34	1.6	86	136	114.8

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

NITROGEN USAGE BY USE OF PRODUCT TO SLOW BREAKDOWN OF NITROGEN

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

SOIL TEST	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH PRODUCT		3/				
WITHOUT PRODUCT		96	1.6	103	161	199.8
REGION 2	590.0					
WITH PRODUCT		3/				
WITHOUT PRODUCT		99	4.0	55	221	128.8
REGION 3	613.0					
WITH PRODUCT		3/				
WITHOUT PRODUCT		98	1.7	87	144	86.3
STATE	2,500.0					
WITH PRODUCT		3/				
WITHOUT PRODUCT		98	2.1	82	170	415.0

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

NITROGEN USAGE BY MANURE APPLICATION

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

MANURE APPLICATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH MANURE		3/				
WITHOUT MANURE		92	1.6	102	162	193.1
REGION 2	590.0					
WITH MANURE		3/				
WITHOUT MANURE		95	4.1	55	226	126.2
REGION 3	613.0					
WITH MANURE		3/				
WITHOUT MANURE		93	1.7	86	142	80.5
STATE	2,500.0					
WITH MANURE		5	1.3	111	144	16.7
WITHOUT MANURE		93	2.1	81	171	399.8

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

NITROGEN USAGE BY IRRIGATION METHOD

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

METHOD OF IRRIGATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
IRRIGATED		74	1.6	115	187	179.5
NON-IRRIGATED		22	1.3	55	74	21.3
REGION 2	590.0					
IRRIGATED		83	4.5	55	245	119.4
NON-IRRIGATED		16	1.4	69	98	9.4
REGION 3	613.0					
IRRIGATED		10	1.9	89	166	9.8
NON-IRRIGATED		89	1.6	86	141	77.2
STATE	2,500.0					
IRRIGATED		60	2.5	83	204	308.6
NON-IRRIGATED		38	1.5	80	115	107.9

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

PHOSPHATE USAGE BY APPLICATION METHOD

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1995

APPLICATION METHOD	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
BRDCST W/O INCORP		3/				
BRDCST W/ INCORP		3/				
BROADCAST AIR						
IN FURROW		3/				
IN IRRIGATION						
INJECT/KNIFED		23	1.0	32	32	9.6
BANDED		42	1.0	30	30	16.4
FOLIAR/DIRECT						
REGION 2	590.0					
BRDCST W/O INCORP		47	1.0	16	16	4.5
BRDCST W/ INCORP		3/				
BROADCAST AIR						
IN FURROW		17	1.0	28	28	2.9
IN IRRIGATION						
INJECT/KNIFED		3/				
BANDED		50	1.0	37	37	11.1
FOLIAR/DIRECT		3/				
REGION 3	613.0					
BRDCST W/O INCORP		38	1.0	57	59	13.5
BRDCST W/ INCORP		6	1.0	32	33	1.2
BROADCAST AIR						
IN FURROW		8	1.0	29	30	1.4
IN IRRIGATION						
INJECT/KNIFED		3/				
BANDED		27	1.0	26	27	4.4
FOLIAR/DIRECT		3/				
STATE	2,500.0					
BRDCST W/O INCORP		21	1.0	41	41	21.5
BRDCST W/ INCORP		10	1.1	37	42	10.8
BROADCAST AIR						
IN FURROW		7	1.0	28	29	4.8
IN IRRIGATION						
INJECT/KNIFED		12	1.1	32	35	10.4
BANDED		39	1.1	29	33	31.8
FOLIAR/DIRECT		3/				

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PHOSPHATE USAGE BY TIMING OF APPLICATION

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TIMING OF APPLICATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
BEFORE SEEDING		36	1.0	38	39	18.0
AT SEEDING		52	1.0	28	29	19.2
AFTER SEEDING						
REGION 2	590.0					
BEFORE SEEDING, FALL		50	1.0	19	19	5.7
AT SEEDING		86	1.0	30	30	15.3
AFTER SEEDING		3/				
REGION 3	613.0					
BEFORE SEEDING, FALL		35	1.1	52	56	12.0
AT SEEDING		45	1.1	31	33	9.2
AFTER SEEDING						
STATE	2,500.0					
BEFORE SEEDING, FALL		36	1.0	39	39	35.7
AT SEEDING		54	1.0	30	32	43.7
AFTER SEEDING		3/				

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PHOSPHATE USAGE BY STANDARD SOIL TEST

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

SOIL TEST	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH SOIL TEST		73	1.1	34	35	33.1
NO SOIL TEST		9	1.0	34	34	4.2
REGION 2	590.0					
WITH SOIL TEST		79	1.5	28	40	18.7
NO SOIL TEST		13	1.0	28	29	2.3
REGION 3	613.0					
WITH SOIL TEST		11	1.2	49	60	4.1
NO SOIL TEST		67	1.0	40	42	17.1
STATE	2,500.0					
WITH SOIL TEST		51	1.4	31	44	55.9
NO SOIL TEST		25	1.0	37	37	23.6

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

PHOSPHATE USAGE BY MANURE APPLICATION

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

MANURE APPLICATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH MANURE		3/				
WITHOUT MANURE		81	1.1	32	35	36.6
REGION 2	590.0					
WITH MANURE		3/				
WITHOUT MANURE		90	1.5	26	39	20.6
REGION 3	613.0					
WITH MANURE		3/				
WITHOUT MANURE		72	1.1	39	42	18.8
STATE	2,500.0					
WITH MANURE		3/				
WITHOUT MANURE		80	1.2	33	38	76.0

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PHOSPHATE USAGE BY IRRIGATION METHOD

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

METHOD OF IRRIGATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
IRRIGATED		63	1.1	34	37	30.6
NON-IRRIGATED		20	1.0	25	26	6.7
DON'T KNOW						
REGION 2	590.0					
IRRIGATED		79	1.5	26	40	18.7
NON-IRRIGATED		14	1.1	26	28	2.3
DON'T KNOW						
REGION 3	613.0					
IRRIGATED		10	1.1	51	53	3.2
NON-IRRIGATED		69	1.1	39	43	18.1
DON'T KNOW						
STATE	2,500.0					
IRRIGATED		54	1.2	32	39	52.4
NON-IRRIGATED		30	1.0	35	36	27.1
DON'T KNOW						

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.

POTASH USAGE BY APPLICATION METHOD

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1995

APPLICATION METHOD	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
BRDCST W/O						
BRDCST W/		3/				
BROADCAST AIR						
IN FURROW						
IN IRRIGATION						
INJECT/KNIFED		3/				
BANDED		3/				
FOLIAR/DIRECT						
REGION 2	590.0					
BRDCST W/O		3/				
BRDCST W/		3/				
BROADCAST AIR						
IN FURROW		3/				
IN IRRIGATION						
INJECT/KNIFED						
BANDED		3/				
FOLIAR/DIRECT						
REGION 3	613.0					
BRDCST W/O		3/				
BRDCST W/		3/				
BROADCAST AIR						
IN FURROW		3/				
IN IRRIGATION						
INJECT/KNIFED		3/				
BANDED		3/				
FOLIAR/DIRECT		3/				
STATE	2,500.0					
BRDCST W/O		16	1.1	31	35	14.0
BRDCST W/		3/				
BROADCAST AIR						
IN FURROW		3/				
IN IRRIGATION						
INJECT/KNIFED		3/				
BANDED		13	1.1	9	10	3.3
FOLIAR/DIRECT		3/				

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

POTASH USAGE BY TIMING OF APPLICATION

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TIMING OF APPLICATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
BEFORE SEEDING		3/				
AT SEEDING		3/				
AFTER SEEDING						
REGION 2	590.0					
BEFORE SEEDING, FALL		3/				
AT SEEDING		3/				
AFTER SEEDING		3/				
REGION 3	613.0					
BEFORE SEEDING, FALL		23	1.0	30	30	4.2
AT SEEDING		9	1.0	30	30	1.6
AFTER SEEDING		3/				
STATE	2,500.0					
BEFORE SEEDING, FALL		19	1.4	32	45	21.0
AT SEEDING		15	1.0	13	13	4.9
AFTER SEEDING		3/				

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

POTASH USAGE BY STANDARD SOIL TEST

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

SOIL TEST	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH SOIL TEST		3/				
NO SOIL TEST		3/				
REGION 2	590.0					
WITH SOIL TEST		3/				
NO SOIL TEST		3/				
REGION 3	613.0					
WITH SOIL TEST		4	1.5	44	68	1.8
NO SOIL TEST		3/				
STATE	2,500.0					
WITH SOIL TEST		17	2.0	25	50	21.7
NO SOIL TEST		7	1.0	27	27	4.4

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

POTASH USAGE BY MANURE APPLICATION

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

MANURE APPLICATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
WITH MANURE						
WITHOUT MANURE		3/				
REGION 2	590.0					
WITH MANURE		3/				
WITHOUT MANURE		58	2.0	27	53	18.2
REGION 3	613.0					
WITH MANURE		3/				
WITHOUT MANURE		29	1.0	29	29	5.2
STATE	2,500.0					
WITH MANURE		3/				
WITHOUT MANURE		28	1.5	25	36	25.3

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

POTASH USAGE BY IRRIGATION METHOD

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

METHOD OF IRRIGATION	ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (MILL. LBS) 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
IRRIGATED		3/				
NON-IRRIGATED		3/				
REGION 2	590.0					
IRRIGATED		3/				
NON-IRRIGATED		3/				
REGION 3	613.0					
IRRIGATED		3/				
NON-IRRIGATED		31	1.0	30	31	5.8
STATE	2,500.0					
IRRIGATED		15	2.2	24	54	20.0
NON-IRRIGATED		9	1.0	27	27	6.1

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

GENERAL FERTILIZER PRACTICES

CORN: SPECIAL PRACTICES BY REGION, 1996
Percent Usage

REGION	USE PRODUCT TO SLOW BREAKDOWN OF NITROGEN	PERFORMED SOIL OR PLANT TISSUE TESTS	PERFORMED A NITROGEN TEST	AMOUNT APPLIED COMPARED TO RECOMMENDATIONS		
				MORE THAN	LESS THAN	SAME AS
	- PERCENT- -					
REGION 1	-	62	60	8	25	65
REGION 2	-	55	53	21	14	61
REGION 3	-	21	17	10	5	67
STATE	1/	41	39	12	17	64

1/ Insufficient data to publish.

CORN: MANURE USAGE BY REGION, 1996

REGION	PERCENT APPLYING MANURE	PERCENT OF ACRES WITH MANURE APPLIED	AVG. TONS APPLIED PER ACRE	HOW APPLIED		
				DRY BROADCAST WITHOUT INCORP.	DRY BROADCAST WITH INCORP.	LIQUID WITHOUT INCORP.
				- - - - - - - - - PERCENT - - - - - - - - -		
REGION 1	8	5	8	1/	1/	1/
REGION 2	13	4	9	1/	1/	1/
REGION 3	9	7	2	1/	1/	1/
STATE	10	5	6	62	33	5

1/ Insufficient data to publish

CORN: SOURCE OF MANURE BY REGION, 1996

REGION	BEEF	DAIRY	HOGS	OTHER
	- - - - - - - - - - - - - - - - - - PERCENT- - - - - - - - - - - - - - -			
REGION 1	1/	1/	1/	1/
REGION 2	1/	1/	1/	1/
REGION 3	1/	1/	1/	1/
STATE	67	19	10	5

1/ Insufficient data to publish

GENERAL FERTILIZER PRACTICES

CORN: LIME APPLICATION BY REGION, 1996
Percent Usage

REGION	LIME APPLIED	AVERAGE YEARS BETWEEN APPLICATIONS	AVERAGE APPLICATION RATES
	- - - - - - - - - - - - - - - - - - PERCENT- - - - - - - - - - - - - - -		
REGION 1	-	-	-
REGION 2	15	11	2.5
REGION 3	38	8	3.3
STATE	21	9	3.2

CORN: SULFUR APPLICATIONS BY REGION, 1996
Percent Usage

REGION	SULFUR APPLIED	RATE PER APPLICATION
	PERCENT	POUND PER ACRE
REGION 1	18	9
REGION 2	20	7
REGION 3	2	6
STATE	12	8

CORN: MICRO NUTRIENTS BY REGION, 1996
Percent Usage

REGION	MICRO NUTRIENT APPLIED	THOSE WHO APPLIED MICRO NUTRIENTS APPLIED THE FOLLOWING PRODUCTS:		
		ZINC	MAGNESIUM	IRON
	- - - - - - - - - - - - - - - - - - PERCENT- - - - - - - - - - - - - - -			
REGION 1	26	94		6
REGION 2	14	78	22	
REGION 3	1	1/		
STATE	12	89	8	4

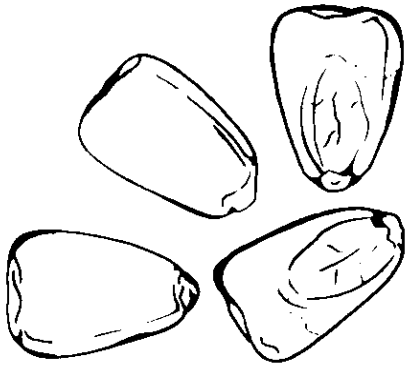
1/ Insufficient data to publish.

PESTICIDE USAGE BY TYPE OF PESTICIDE

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND TOTAL POUNDS APPLIED, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES		TOTAL APPLIED (000) LBS
	ASB ACRES (000)	PCT TREATED 1/	
REGION 1	1,297.0		
HERBICIDES		90	2,863.8
INSECTICIDES		61	479.6
REGION 2	590.0		
HERBICIDES		99	1,756.3
INSECTICIDES		59	44.5
REGION 3	613.0		
HERBICIDES		94	1,316.0
INSECTICIDES		8	43.0
STATE	2,500.0		
HERBICIDES		93	5,936.0
INSECTICIDES		48	567.0

1/ Refers to acres receiving one or more applications of a specific pesticide ingredient.
2/ May not add due to rounding.



PESTICIDE USAGE BY ACTIVE INGREDIENT

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF HERBICIDE	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (000) LBS 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
2,4-D		16	1.1	0.36	0.40	81.7
ALACHLOR		1	1.0	1.95	1.95	31.8
ATRAZINE		76	1.2	0.96	1.12	1,097.8
BIFENTHRIN		24	1.0	0.05	0.05	16.0
DICAMBA		16	1.0	0.25	0.26	52.3
GLYPHOSATE		17	1.7	0.51	0.84	187.2
METHYL PARATHION		19	1.0	0.42	0.42	103.3
METOLACHLOR		32	1.2	1.51	1.83	753.6
PRIMISULFURON		8	1.0	0.02	0.02	2.1
ACETOCHLOR		3/				
LAMBDA CYHALOTHRIN		3/				
NICOSULFURON		3/				
PROSULFURON		3/				
TERBUFOS		3/				
REGION 2	590.0					
ATRAZINE		86	1.0	1.37	1.41	716.7
METOLACHLOR		50	1.0	1.86	1.82	547.0
PRIMISULFURON		24	1.0	0.02	0.02	2.9
PROSULFURON		20	1.0	0.02	0.02	2.6
2,4-D		3/				
ACETOCHLOR		3/				
ALACHLOR		3/				
BIFENTHRIN		3/				
DICAMBA		3/				
GLYPHOSATE		3/				
LAMBDA CYHALOTHRIN		3/				
NICOSULFURON		3/				
TERBUFOS		3/				
REGION 3	613.0					
2,4-D		11	1.0	0.34	0.34	22.8
ALACHLOR		23	1.0	1.98	1.98	274.0
ATRAZINE		68	1.0	1.16	1.18	488.9
METOLACHLOR		22	1.0	1.50	1.50	201.2
PRIMISULFURON		14	1.0	0.02	0.02	1.4
PROSULFURON		10	1.0	0.02	0.02	0.9
ACETOCHLOR		3/				
DICAMBA		3/				
NICOSULFURON		3/				
TERBUFOS		3/				
STATE	2,500.0					
2,4-D		12	1.1	0.35	0.37	110.6
ACETOCHLOR		11	1.0	1.32	1.32	347.0
ALACHLOR		13	1.0	2.06	2.06	670.8
ATRAZINE		79	1.1	1.07	1.16	2,303.4
BIFENTHRIN		22	1.0	0.06	0.06	32.4
DICAMBA		10	1.1	0.23	0.26	61.9
GLYPHOSATE		10	1.5	0.55	0.80	189.9
LAMBDA CYHALOTHRIN		6	1.0	0.03	0.03	4.5
METHYL PARATHION		10	1.0	0.42	0.43	103.3
METOLACHLOR		34	1.1	1.61	1.78	1,501.8
NICOSULFURON		5	1.0	0.02	0.02	2.6
PRIMISULFURON		13	1.0	0.02	0.02	6.4
PROSULFURON		10	1.0	0.02	0.02	4.9
TERBUFOS		8	1.0	1.08	1.08	223.3
CARBOFURAN		3/				
CYANAZINE		3/				
IMAZETHAPYR		3/				
PENDIMETHALIN		3/				
TEFLUTHRIN		3/				

1/ Refers to acres receiving one or more applications of specific pesticide ingredient. 2/ May not add due to rounding. 3/ Insufficient reports to publish.

PESTICIDE USAGE BY TARGET PEST
BEETLES/WEEVILS/WIREWORMS

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (000) LBS 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
METHYL PARATHION		13	1.0	0.39	0.39	65.5
TERBUFOS		3/				
TEFLUTHRIN		3/				
REGION 2	590.0					
TERBUFOS		3/				
TEFLUTHRIN		3/				
REGION 3	613.0					
TERBUFOS		3/				
TEFLUTHRIN		3/				
STATE	2,500.0					
METHYL PARATHION		7	1.0	0.39	0.39	65.5
TERBUFOS		8	1.0	1.07	1.07	225.8
TEFLUTHRIN		6	1.0	0.12	0.12	18.0

1/ Refers to acres receiving one or more applications of a specific pesticide ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PESTICIDE USAGE BY TARGET PEST
MOTHS/CATERPILLARS

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (000) LBS 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
BIFENTHRIN		3/				
LAMBDA CYHALOTHRIN		3/				
REGION 2	590.0					
BIFENTHRIN		3/				
LAMBDA CYHALOTHRIN		3/				
STATE	2,500.0					
BIFENTHRIN		21	1.0	0.07	0.07	35.4
LAMBDA CYHALOTHRIN		5	1.0	0.03	0.03	3.9

1/ Refers to acres receiving one or more applications of a specific pesticide ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PESTICIDE USAGE BY TARGET PEST
FOXTAILS

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (000) LBS 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
ATRAZINE		3/				
METOLACHLOR		3/				
REGION 2	590.0					
ATRAZINE		3/				
METOLACHLOR		3/				
REGION 3	613.0					
ATRAZINE		22	1.0	0.91	0.91	121.6
METOLACHLOR		3/				
STATE	2,500.0					
ATRAZINE		11	1.0	1.02	1.02	290.6
METOLACHLOR		9	1.0	1.90	1.90	405.2

1/ Refers to acres receiving one or more applications of a specific pesticide ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PESTICIDE USAGE BY TARGET PEST
SHATTERCANE

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (000) LBS 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
IMAZETHAPYR		3/				
PRIMISULFURON		3/				
REGION 2	590.0					
NICOSULFURON		3/				
PRIMISULFURON		3/				
REGION 3	613.0					
PRIMISULFURON		6	1.0	0.02	0.02	0.6
IMAZETHAPYR		3/				
NICOSULFURON		3/				
STATE	2,500.0					
PRIMISULFURON		8	1.0	0.02	0.02	4.1
IMAZETHAPYR		3/				
NICOSULFURON		3/				

1/ Refers to acres receiving one or more applications of a specific pesticide ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PESTICIDE USAGE BY TARGET PEST
BROADLEAVES

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (000) LBS 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
2,4-D		16	1.1	0.36	0.39	81.5
ATRAZINE		49	1.0	0.90	0.93	592.6
METOLACHLOR		24	1.0	1.21	1.22	374.1
DICAMBA		3/				
GLYPHOSATE		3/				
PRIMISULFURON		3/				
PROSULFURON		3/				
REGION 2	590.0					
ATRAZINE		39	1.0	0.99	0.99	226.9
METOLACHLOR		18	1.0	1.75	1.75	181.5
2,4-D		3/				
DICAMBA		3/				
GLYPHOSATE		3/				
PRIMISULFURON		3/				
PROSULFURON		3/				
REGION 3	613.0					
2,4-D		11	1.0	0.33	0.33	22.8
ATRAZINE		46	1.0	1.20	1.21	337.5
METOLACHLOR		7	1.0	1.54	1.54	67.0
DICAMBA		3/				
PRIMISULFURON		3/				
PROSULFURON		3/				
STATE	2,500.0					
2,4-D		12	1.0	0.36	0.38	107.5
ATRAZINE		46	1.0	0.99	1.00	1,157.0
DICAMBA		8	1.2	0.20	0.24	49.5
GLYPHOSATE		5	1.0	0.78	0.78	86.8
METOLACHLOR		18	1.0	1.37	1.39	622.6
PRIMISULFURON		5	1.0	0.02	0.02	2.1
PROSULFURON		4	1.0	0.02	0.02	1.9
ACETOCHLOR		3/				

1/ Refers to acres receiving one or more applications of a specific pesticide ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

PESTICIDE USAGE BY TARGET PEST
GRASSES

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES		APPLICATION RATES			TOTAL APPLIED CROP YEAR (000) LBS 2/
	ASB ACRES (000)	PCT TREATED 1/	MEAN NUMBER APPLI-CATIONS	RATE PER APPLI-CATION	RATE PER CROP YEAR	
REGION 1	1,297.0					
ATRAZINE		35	1.1	1.02	1.14	509.2
METOLACHLOR		19	1.0	1.92	1.92	468.5
ALACHLOR		3/				
PRIMISULFURON		3/				
REGION 2	590.0					
ATRAZINE		64	1.0	1.37	1.38	515.5
METOLACHLOR		37	1.0	1.93	1.93	418.6
ALACHLOR		3/				
PRIMISULFURON		3/				
REGION 3	613.0					
ATRAZINE		26	1.0	0.94	0.95	150.1
METOLACHLOR		17	1.0	1.50	1.50	153.8
PRIMISULFURON		9	1.0	0.02	0.02	1.0
ALACHLOR		3/				
STATE	2,500.0					
ALACHLOR		11	1.0	2.17	2.17	576.4
ATRAZINE		39	1.1	1.13	1.20	1,174.7
METOLACHLOR		23	1.0	1.85	1.85	1,040.8
PRIMISULFURON		9	1.0	0.02	0.02	4.6
ACETOCHLOR		3/				
GLYPHOSATE		3/				
NICOSULFURON		3/				

1/ Refers to acres receiving one or more applications of a specific pesticide ingredient.
2/ May not add due to rounding.
3/ Insufficient data to publish.

HERBICIDE USAGE BY APPLICATION METHOD

CORN: TOTAL ACREAGE AND PERCENT OF ACRES TREATED BY REGION, 1996

APPLICATION METHOD	ACRES	
	ASB ACRES (000)	PCT ACRES TREATED 1/
REGION 1	1,297.0	
BRDCST W/O INCORP		59
BRDCST W/ INCORP		2/
BROADCAST AIR		2/
IN FURROW		
IN IRRIGATION		
INJECT/KNIFED		
BANDED		30
FOLIAR/DIRECT		2/
SPOT TREAT		2/
REGION 2	590.0	
BRDCST W/O INCORP		57
BRDCST W/ INCORP		2/
BROADCAST AIR		2/
IN FURROW		2/
IN IRRIGATION		
INJECT/KNIFED		2/
BANDED		2/
FOLIAR/DIRECT		29
SPOT TREAT		2/
REGION 3	613.0	
BRDCST W/O INCORP		80
BRDCST W/ INCORP		6
BROADCAST AIR		2/
IN FURROW		2/
IN IRRIGATION		
INJECT/KNIFED		
BANDED		7
FOLIAR/DIRECT		2/
SPOT TREAT		
STATE	2,500.0	
BRDCST W/O INCORP		64
BRDCST W/ INCORP		8
BROADCAST AIR		8
IN FURROW		2/
IN IRRIGATION		
INJECT/KNIFED		2/
BANDED		19
FOLIAR/DIRECT		8
SPOT TREAT		2/

1/ Refers to acres receiving one or more applications of a specific herbicide ingredient.
2/ Insufficient data to publish.

HERBICIDE USAGE BY TIMING OF APPLICATION

CORN: TOTAL ACREAGE AND PERCENT OF ACRES TREATED BY REGION, 1996

TIMING OF APPLICATION 1/	ACRES	
	ASB ACRES (000)	PCT ACRES TREATED 2/
REGION 1	1,297.0	
BEFORE PLANTING		37
AT PLANTING		43
AFTER PLANTING		39
REGION 2	590.0	
BEFORE PLANTING		7
AT PLANTING		61
AFTER PLANTING		60
REGION 3	613.0	
BEFORE PLANTING		17
AT PLANTING		45
AFTER PLANTING		42
STATE	2,500.0	
BEFORE PLANTING		25
AT PLANTING		48
AFTER PLANTING		45

1/ At planting is defined as 3 days before planting to 3 days after planting.
2/ Refers to acres receiving one or more applications of a specific herbicide ingredient.

HERBICIDE USAGE BY APPLICATOR

CORN: TOTAL ACREAGE AND PERCENT OF ACRES TREATED BY REGION, 1996

TIMING OF APPLICATION	ACRES	
	ASB ACRES (000)	PCT ACRES TREATED 1/
REGION 1	1,297.0	
OPERATOR		47
CUSTOM		38
EMPLOYEE		2/
REGION 2	590.0	
OPERATOR		43
CUSTOM		66
EMPLOYEE		2/
REGION 3	613.0	
OPERATOR		57
CUSTOM		40
EMPLOYEE		2/
STATE	2,500.0	
OPERATOR		48
CUSTOM		45
EMPLOYEE		2/

1/ Refers to acres receiving one or more applications of a specific herbicide ingredient.
2/ Insufficient data to publish.

INSECTICIDE USAGE BY APPLICATION METHOD

CORN: TOTAL ACREAGE AND PERCENT OF ACRES TREATED BY REGION, 1996		
APPLICATION METHOD	ACRES	
	ASB ACRES (000)	PCT ACRES TREATED 1/
REGION 1	1,297.0	
BRDCST W/O INCORP		2/
BRDCST W/ INCORP		2/
BROADCAST AIR		57
IN FURROW		2/
IN IRRIGATION		2/
INJECT/KNIFED		
BANDED		2/
FOLIAR/DIRECT		
SPOT TREAT		
REGION 2	590.0	
BRDCST W/O INCORP		
BRDCST W/ INCORP		
BROADCAST AIR		39
IN FURROW		2/
IN IRRIGATION		2/
INJECT/KNIFED		
BANDED		2/
FOLIAR/DIRECT		
SPOT TREAT		
REGION 3	613.0	
BRDCST W/O INCORP		2/
BRDCST W/ INCORP		
BROADCAST AIR		
IN FURROW		2/
IN IRRIGATION		
INJECT/KNIFED		
BANDED		2/
FOLIAR/DIRECT		2/
SPOT TREAT		
STATE	2,500.0	
BRDCST W/O INCORP		2/
BRDCST W/ INCORP		2/
BROADCAST AIR		39
IN FURROW		2/
IN IRRIGATION		2/
INJECT/KNIFED		
BANDED		2/
FOLIAR/DIRECT		2/
SPOT TREAT		

1/ Refers to acres receiving one or more applications of a specific insecticide ingredient.
2/ Insufficient data to publish.

INSECTICIDE USAGE BY TIMING OF APPLICATION

CORN: TOTAL ACREAGE AND PERCENT OF ACRES TREATED BY REGION, 1996

TIMING OF APPLICATION	ACRES	
	ASB ACRES (000)	PCT ACRES TREATED 1/
REGION 1	1,297.0	
BEFORE PLANTING		3/
AT PLANTING		3/
AFTER PLANTING		60
REGION 2	590.0	
BEFORE PLANTING		
AT PLANTING		3/
AFTER PLANTING		59
REGION 3	613.0	
BEFORE PLANTING		
AT PLANTING		3/
AFTER PLANTING		3/
STATE	2,500.0	
BEFORE PLANTING		3/
AT PLANTING		13
AFTER PLANTING		45

1/ At planting is defined as 3 days before planting to 3 days after planting.
2/ Refers to acres receiving one or more applications of a specific insecticide ingredient.
3/ Insufficient data to publish.

INSECTICIDE USAGE BY APPLICATOR

CORN: TOTAL ACREAGE, PERCENT OF ACRES TREATED, AND APPLICATION RATES, BY REGION, 1996

TYPE OF PESTICIDE	PLANTED ACRES	
	ASB ACRES (000)	PCT TREATED 1/
REGION 1	1,297.0	
OPERATOR		2/
CUSTOM		55
EMPLOYEE		2/
REGION 2	590.0	
OPERATOR		2/
CUSTOM		39
REGION 3	613.0	
OPERATOR		2/
STATE	2,500.0	
OPERATOR		14
CUSTOM		38
EMPLOYEE		2/

1/ Refers to acres receiving one or more applications of a specific insecticide ingredient.
2/ Insufficient data to publish.

RECORDS USE

CORN: USE OF RECORDS TO PROVIDE SURVEY DATA BY REGION, 1996

REGION	FERTILIZER	PESTICIDE
	- - - - - - - - - - - - - PERCENT - - - - - - - - - - - - -	
REGION 1	68	66
REGION 2	47	49
REGION 3	44	41
STATE	52	51

PEST MANAGEMENT PRACTICES

CORN: FIELD SCOUTING FOR PESTS BY REGION, 1996					
PEST BY REGION	SCOUTED PERCENT	BY			
		OPERATOR	EMPLOYEE	DEALER	CONSULTANT
		- - - - - - - - - - - - - - - PERCENT - - - - - - - - - - - - - - -			
FOR WEEDS					
REGION 1	95	50		2	48
REGION 2	89	55		-	45
REGION 3	85	88		1	11
STATE	89	68		1	31
FOR INSECTS					
REGION 1	89	46		2	52
REGION 2	83	52		-	48
REGION 3	66	85		1	14
STATE	77	63		1	36
FOR DISEASES					
REGION 1	80				
REGION 2	83				
REGION 3	51				
STATE	67				

CORN: RECORDS OF SCOUTING BY REGION, 1996						
REGION	BROAD LEAF WEEDS	GRASS WEEDS	BLACK CUTWORMS	CORN ROOTWORMS	EUROPEAN CORN BORERS	SPIDER MITES
	- - - - - - - - - - - - - - PERCENT - - - - - - - - - - - - - - - -					
REGION 1	37	37	29	34	32	35
REGION 2	40	43	32	36	34	32
REGION 3	21	19	6	5	7	5
STATE	31	31	20	22	22	21

CORN: SCOUTING COST AND TIME BY REGION, 1996			
REGION	AVERAGE COST FOR COMMERCIAL SCOUTING	AVERAGE HOURS SCOUTING BY OPERATOR AND EMPLOYEE	PERCENTAGE OF COST FOR INSECT SCOUTING
	- PERCENT -		
REGION 1	$5.47	9.3	57
REGION 2	$5.18	3.3	32
REGION 3	$4.88	2.5	36
STATE	$5.30	4.2	46

PEST MANAGEMENT PRACTICES

CORN: CULTIVATED FOR WEED CONTROL BY REGION, 1996								
REGION	CULTIVATED (PERCENT)	1996 CULTIVATION DATE				CULTIVATION FREQUENCY (PERCENT)		
		EARLIEST	AVERAGE	LATEST	MOST FREQUENT	ONCE	TWICE	THREE +
REGION 1	46	5/15	6/05	6/22	5/15 6/15	38	8	-
REGION 2	64	5/01	6/04	7/12	6/10	47	13	4
REGION 3	40	4/25	5/25	6/20	5/15 5/25	36	4	-
STATE	48	4/25	6/05	7/12	5/15	40	7	1

CORN: WEED RESISTANCE BY REGION, 1996		
REGION	TRIAZINE HERBICIDES 1/	ALS INHIBITOR HERBICIDES 2/
	- - - - - - - - - - PERCENT - - - - - - - - - - - -	
REGION 1	13	0
REGION 2	8	0
REGION 3	0	0
STATE	6	0

1/ Atrazine, Aatrex, Bladex, Extrazine, Princep, Sencor, Simazine, etc. 2/ Beacon, Pursuit, etc.

PEST MANAGEMENT PRACTICES

CORN: APPLIED PRE-EMERGENCE HERBICIDES BY REGION, 1996					
REGION	APPLIED PERCENT	BASED ON			
		ROUTINE TREATMENT	FIELD MAPPING	COMPUTER METHOD	CROP CONSULTANT
		- - - - - - - - - - - - - - - - - PERCENT - - - - - - - - - - - - - - - - -			
REGION 1	71	65	9	0	52
REGION 2	83	80	18	0	48
REGION 3	65	92	13	0	16
STATE	71	81	13	0	36

CORN: APPLIED POST-EMERGENCE HERBICIDES BY REGION, 1996					
REGION	APPLIED PERCENT	BASED ON			
		ROUTINE TREATMENT	TYPE &/OR DENSITY OF WEEDS	COMPUTER METHOD	CROP CONSULTANT
		- - - - - - - - - - - - - - - - - PERCENT - - - - - - - - - - - - - - - - -			
REGION 1	45	38	41	3	62
REGION 2	45	33	54	0	50
REGION 3	42	36	86	0	24
STATE	44	36	64	1	42

CORN: APPLIED INSECTICIDES AT PLANTING TO CONTROL ROOTWORM BY REGION, 1996			
REGION	ROUTINELY APPLIED	DID NOT ROUTINELY APPLY	
		SCOUTED DURING 1995 TO DETERMINE NEED	DID NOT SCOUT DURING 1995 BUT SCOUTED DURING 1996 TO DETERMINE NEED
	- - - - - - - - - - - - - - - - - - - PERCENT - - - - - - - - - - - - - - - - - - -		
REGION 1	25	29	20
REGION 2	9	27	6
REGION 3	5	6	5
STATE	12	17	8

PEST MANAGEMENT PRACTICES

CORN: PEST CONTROL PRACTICES BY REGION, 1996				
METHOD BY REGION	PERCENT OF PRODUCERS	PRODUCERS USING PRACTICE TO CONTROL: 2/		
		WEEDS ONLY	INSECTS ONLY	BOTH
		PERCENT		
ADJUST ROW SPACING OR PLANT DENSITY				
REGION 1	3	1/		
REGION 2	2	1/		
REGION 3	6	83		17
STATE	4	78	-	22
ADJUST PLANTING DATE				
REGION 1	5	33	67	-
REGION 2	8	25		75
REGION 3	2	-	100	-
STATE	4	11	33	56
ALTERNATING PESTICIDES				
REGION 1	26	47	24	29
REGION 2	25	31	23	46
REGION 3	34	69	-	31
STATE	29	55	11	34
TILLING, MOWING, BURNING, OR CHOPPING FIELD EDGES				
REGION 1	22	43	21	36
REGION 2	9	40		60
REGION 3	27	54		46
STATE	21	49	7	44
CONTROLLED DRAINAGE OR IRRIGATION SCHEDULING				
REGION 1	5	33		67
REGION 2	11	67		33
REGION 3	3	67		33
STATE	6	58		42
CLEANING TILLAGE AND HARVESTING EQUIPMENT				
REGION 1	23	60		40
REGION 2	26	36		64
REGION 3	25	65		35
STATE	25	56		44

1/ Insufficient data to publish. 2/ Represents breakout of producers who performed practices by whether they performed the practice for weeds only, insects only, or both.

PEST MANAGEMENT PRACTICES

CORN: SPECIAL PRACTICES BY REGION, 1996					
REGION	BIOLOGICAL SOIL ANALYSIS TO DETECT PESTS	CONSIDER BENEFICIAL INSECTS IN SELECTING PESTICIDES	REMOVE WEEDS TO PREVENT INSECT EGG LAYING	USE SEED TREATMENT TO SEEDLING BLIGHT CONTROL	SUBMIT DISEASED PLANTS TO LAB FOR ANALYSIS
	- PERCENT -				
REGION 1	9	23	11	17	2
REGION 2	6	11	8	17	6
REGION 3	1	5	11	14	2
STATE	5	12	10	16	3

CORN: SPECIAL PRACTICES BY REGION, 1996			
REGION	PURCHASES BENEFICIAL INSECTS	USE PHEROMONE LURES FOR BLACK CUTWORMS	SET AND MONITOR PRE-PLANT TRAPS FOR WIREWORMS
	- PERCENT -		
REGION 1	0	0	0
REGION 2	0	0	0
REGION	0	0	0
STATE	0	0	0

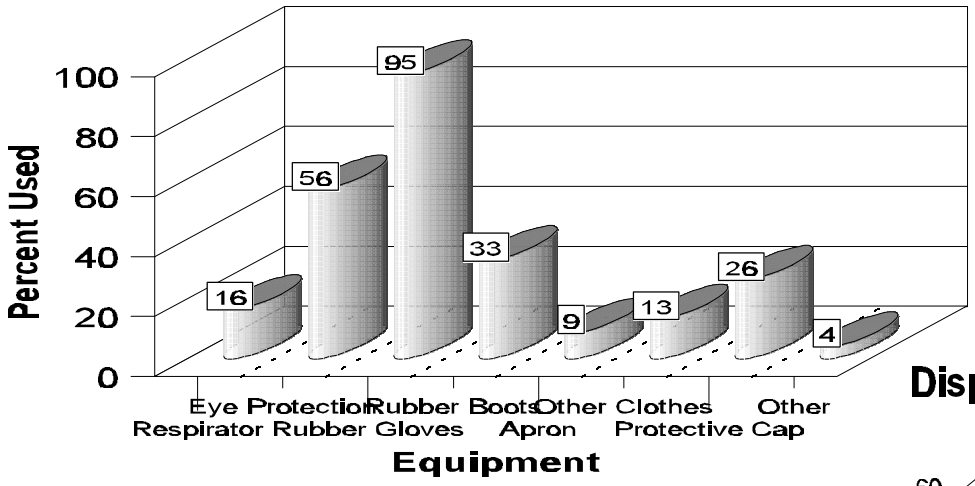
CORN: INFORMATION SOURCES BY REGION, 1996					
REGION	UNIVERSITY RESEARCH AND EXTENSION	FARM SUPPLY	COMMERCIAL SCOUTING	CROP CONSULTANT	OTHER GROWERS
	- PERCENT -				
REGION 1	5	38	15	31	2
REGION 2	2	45	4	36	2
REGION 3	9	64	1	10	1
STATE	6	52	6	23	1

REGION	PRODUCER ASSOCIATION	TV, RADIO, NEWSPAPER	ELECTRONIC	OTHER	NONE
	- PERCENT -				
REGION 1	9			2	-
REGION 2		4		2	6
REGION 3	1			1	13
STATE	3	1		1	7

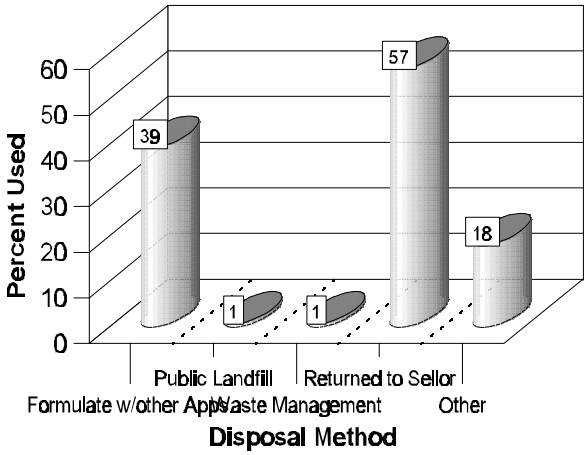
CORN: PESTICIDE USE TRAINING BY REGION, 1996		
REGION	OPERATOR RECEIVED PESTICIDE IDENTIFICATION & MANAGEMENT TRAINING	OPERATOR CERTIFIED FOR APPLYING "RESTRICTED USE" PESTICIDES
	- - - - - - - - - - - - - - - - - - PERCENT - - - - - - - - - - - - - - - - - -	
REGION 1	26	77
REGION 2	25	74
REGION 3	18	74
STATE	22	75

CORN: HANDLING OF CHEMICALS

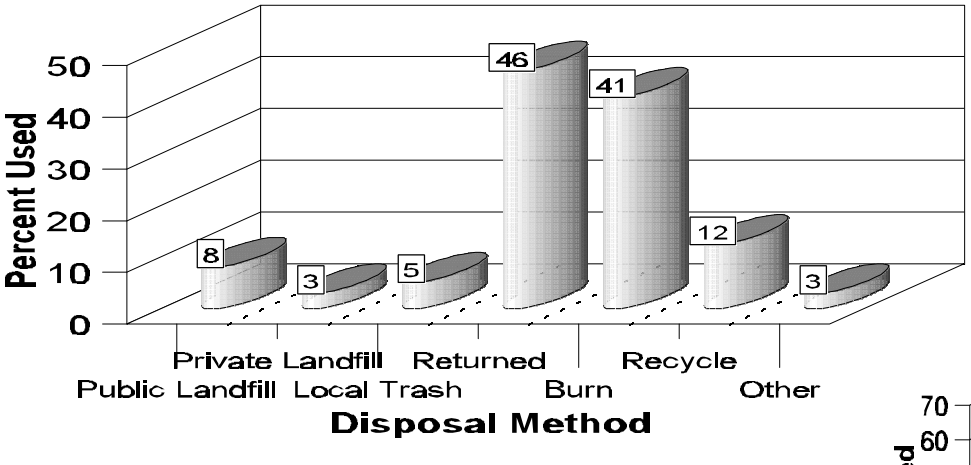
Protective Equipment Usage



Disposal of Unused Chemicals



Disposal of Empty Chemical Containers



Disposal of Full/Partial Pesticide Containers